

*Rush*  
**Work Order ID 62538**

Monday, October 04, 2010 10:54:32 AM

Page 1

Item ID: D4135-1

Accept

Revision ID:

Item Name: Wearpad

Start Date: 10/4/2010 Start Qty: 6.00

Required Date: 10/20/2010 Req'd Qty: 6.00

Reference:

Cust Item ID:

Customer:

Approvals:

Process Plan: *H*

Date: *10-10-04* Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

Draw Nbr

Revision Nbr

D4135

A

100

0.00



FLOW WATER JET

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut as per Dwg D4135

Dwg Rev: *A*

Prog Rev: *A*

2-Deburr if necessary

*304 1063*

*B10-10-5*

*(6)*

110

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

*B10-10-5*

120

0.00



QC8- Inspect parts - second check

QC

Memo

0.00

Quality Control

*5/10/10/06*

*(x6)*

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Work Order ID 62538

Monday, October 04, 2010 10:54:32 AM



Page 2

Item ID: D4135-1

Accept



Setup Start



Revision ID:

Stop



Item Name: Wearpad

Start Date: 10/4/2010 Start Qty: 6.00



Cust Item ID:

Required Date: 10/20/2010 Req'd Qty: 6.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

130



Brake NC

Form as per dwg  
NC BRAKE

0.00

Memo

0.00

Brake NC

1- Form using DT 3179 Die as per Dwg D4135

SD 10/10/12

140



QC

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

Quality Control

SD 10/10/12

76

150



Large Fab

Weld per dwg A/R Hardcoat S.S. Batch: M115850 0.00

Large Fab

Memo

0.00

Large Fab

Weld hard surface using DT \_\_\_\_\_ as per QSI 004 and Dwg D4135

PD 10.10.12

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
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| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

*Reed!*

**Work Order ID 62538**

Monday, October 04, 2010 10:54:32 AM

Page 3

Item ID: D4135-1

Accept

Setup Start

Revision ID:

Stop

Item Name: Wearpad

Start Date: 10/4/2010 Start Qty: 6.00

Cust Item ID:

Required Date: 10/20/2010 Req'd Qty: 6.00

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

160

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Memo

0.00

Quality Control

170

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

180

Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME: 11:30

OVEN TEMPERATURE: 320°

FINISH TIME: 12:00

*10-10-14*

*M 112588*

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

**Work Order ID 62538**

Monday, October 04, 2010 10:54:32 AM

Page 4

Item ID: D4135-1

Accept

Setup Start

Revision ID:

Stop

Item Name: Wearpad

Start Date: 10/4/2010 Start Qty: 6.00

Cust Item ID:

Required Date: 10/20/2010 Req'd Qty: 6.00

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

190

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

200

Identify as per dwg & Stock Location: 496

0.00



Packaging

Memo

0.00

Packaging

210

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/10/14

10/10/14

MF  
10-10-24

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
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|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



# Picklist Print

Monday, October 04, 2010 10:54:36 AM

Page 1

Work Order ID: 62538

Parent Item: D4135-1

Parent Item Name: Wearpad





Start Date: 10/4/2010

Required Date: 10/20/2010

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP Rev:A 10.06.25 new issue DD verf:EC

| Component Item ID/<br>Item Name   | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit   | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|---|--------------|---------------|----------------|--------|
| M304S16GA<br> |                        | Purchased     | No          |                     |                  | 100             | sf                 | 74.3100        | 0.01653   | 0.1044       |               |                |        |
| 304/316 Sheet .063  |                        |               |             |                     |                  |                 |                    |                |  |              |               |                |        |

*Handwritten notes:*  
165  
10-10-05  
10-10-5

Location

Loc Qty

Loc Code

MAT

68.47

111323

0

115688

68.47

MAT20

5.84

115440

5.84

*Handwritten:* 115688

*Handwritten circled number:* 6

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

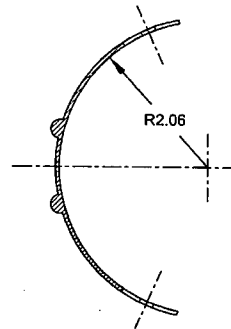
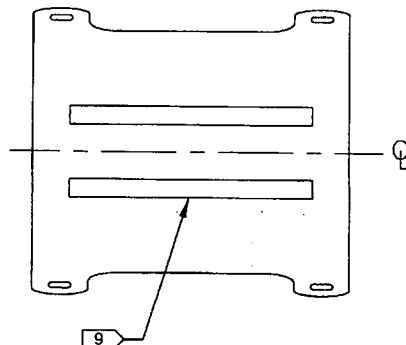
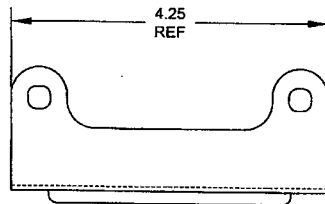
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
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| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



SHOP COPY  
 REVISION  
 UNCONTROLLED COPY  
 SUBJECT: [illegible]  
 WELDING  
 WORK  
 NO. 62535  
PS101004



**D4135-1 WEARPAD**

**NOTES:**

- 1) MATERIAL: MAKE FROM D4135-1F
- 2) FINISH: POWDER COAT "GREY SANDTEX" (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4135-1" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.33 lbs
- 8) WELD PER QSI 004
- 9) 2059B HARDCOAT WELDS, 0.063 TO 0.125 HIGH

**RELEASED**  
 2010-06-29  
*MD*

| A          |           | NEW ISSUE  |       | CP     | 10.06.15 |
|------------|-----------|--|-------|--------|----------|
| REV.       |           | DESCRIPTION  |       | BY     | DATE     |
| DESIGN     | <i>92</i> | <b>DART AEROSPACE USA, INC</b>   |       |        |          |
| DRAWN      | <i>92</i> | PORT HADLOCK, WA   |       |        |          |
| CHECKED    | <i>92</i> | DRAWING NO.  | D4135 | REV. A |          |
| MFG. APPR. | <i>92</i> | SHEET 1 OF 2   |       |        |          |
| APPROVED   | <i>92</i> | TITLE  |       | SCALE  |          |
| DE APPR.   | <i>92</i> | WEARPAD  |       | NTS    |          |
| DATE       | 10.06.15  | COPYRIGHT © 2010 BY DART AEROSPACE USA, INC.<br><small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS LOANED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small> |       |        |          |

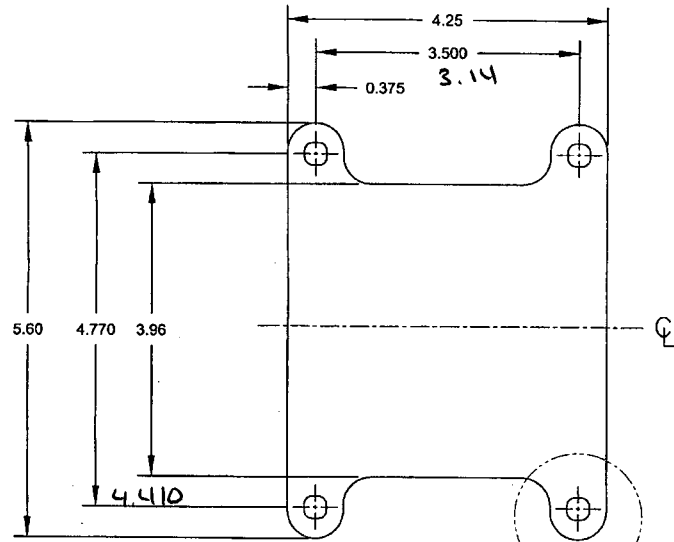
8 7 6 5 4 3 2 1

D

C

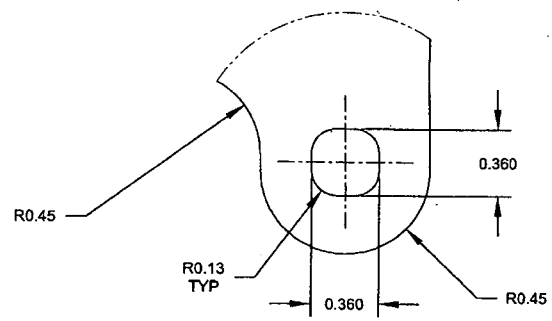
B

A



**D4135-1F FLAT PATTERN**

DETAIL A  
C2-2



**DETAIL A** B5-2  
**SCALE 3X**

w/o 42538

**RELEASED**  
2010-06-29  
MD

**NOTES:**

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL PER AMS 5513 OR AMS 5524 OR ASTM A240, 16 GAUGE (0.063 THICK)  
REF DART SPEC M304S16GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.33 lbs

|            |          |  |              |
|------------|----------|--|--------------|
| DESIGN     | 92       | <b>DART AEROSPACE USA, INC</b>   |              |
| DRAWN      | 92       | PORT HADLOCK, WA   |              |
| CHECKED    |          | DRAWING NO.  | REV. A       |
| MFG. APPR. |          | D4135  | SHEET 2 OF 2 |
| APPROVED   |          | TITLE  | SCALE        |
| DE APPR.   |          | WEARPAD  | NTS          |
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8 7 6 5 4 3 2 1